VARMINT IMPACT ON SHOULDERS AND PAVED SURFACES ON MONTANA'S HIGHWAYS

Scope-of-Work

Purpose

Montana mammals, including, but not limited to gophers and moles are choosing their habitat in and around Montana's roadway shoulders and under paved surfaces.

This choice of habitat creates burrows, which allows water to infiltrate the subsurface causing premature failure of the pavement structure. The Montana Department of Transportation (MDT) Maintenance Division requires cost-effective solutions to mitigate this type of damage. The process of determining methods of preventing mammal damage to transportation infrastructure must be context sensitive to the type of corrective action that will not create unintended consequences for the Department in the selection of the appropriate treatment.

It is for these reasons the Montana Department of Transportation is initiating a research project to determine cost-effective mitigation procedures in the effort to repair or prevent highway damage by rodent species.

Scope of Work

Objective

The overall objective is to develop a comprehensive document to determine the best management practice of efficient mitigation procedures for the reduction of damage to the roadbed by invasive mammal species. The project will entail but not be limited to:

Tasks

1. It will be necessary to understand the how the Departments Maintenance operations currently handle the repair or prevention of roadbed damage by rodents. This will entail meeting with pertinent Maintenance personnel (home office and District) to discuss the issue of varmint damage. This will also entail site visits by the consultant at current affected areas, past fixes or sites that currently depict rodent damage.

2. The consultant (or hereafter known as the 'contractor') will review past documented research involved with this subject and contact departments of transportation/provinces in their experiences with this issue. MDT will

supply a survey conducted in 2007, which will supplement the contractor in their contacts and give some information on current publications and case studies to this effort.

3. The contractor will determine effective practice for the alleviation of rodent damage. For each procedure their will be:

    - Delineation of the species type.
    - Complete description of type of repair required for the geometric attribute of the roadway feature.
    - Cost and quantities of the repair.
    - Special permitting or staff qualifications, and/or training, that may be required for the chosen repair.
    - The environmental consideration of each application.
    - Determine the potential public perception of each type of procedure.
    - Develop a rational decision process.

4. The contractor will also review and report on construction practices that may be incorporated during those projects (i.e. Reconstruct, minor-rehab, etc.) with inclusion of known design that may effectively reduce rodent damage. If possible, relate the information as describes in item 3. Basically, items three and four should create a toolbox for a list of treatments to address specific conditions.

The intent is to move away from reactive maintenance to a preventative maintenance process or a planned strategy of cost-effective treatments to address the specific requirement.

5. The contractor is required to estimate the level of visitation to headquarters, area offices and site visits based on the understanding of the requirements of this effort. The contractor is also responsible for the coordination of those events. The MDT Research Project Manager will provide the contractor necessary information in the coordination of staff interviews and site visits.

6. Based on all tasks, develop a detailed report with recommendations and implementation strategies to support the study.

    For purposes of project planning, allow approximately 8 weeks of technical panel review for the first delivery of the draft final report and an additional 3-4 weeks of review for the second delivery of the draft final report.

Due to the perceived complexity of the effort the consultant will be required attend three formal meetings in Helena.

1. Initial Kick-off meeting:
   Meet with technical panel members and other concerned individuals to review and fine-tune current scope and timeline and the expected products from this effort,
2. Mid-term meeting: Review project to date (optional)
3. Final Presentation to MDT staff and concerned parties.
4. A project summary report must be submitted. The contractor will only provide the text and graphics for the project summary report. Sections to be included in this report are Introduction, What we did, What we found and What the researchers recommend. An example project summary report can be found at:
   http://www.mdt.mt.gov/research/docs/reconfig/project_summary.pdf
4.

Notes:

A. Contractor may suggest an alternative approach to the Helena/District meeting plan or suggest strategies to keep the panel informed on progress and in a position to provide guidance at strategic points, however it will not exclude the three formal meetings described in item 5.
B. All products will be developed in MDT supported format as stated in item 3.3 of the contract.
C. Data used to support the conclusions should be documented, but individual's names may be excluded.

At a minimum, submit progress reports no later than the 30th of each month to the Department throughout the duration of this project. All reports are considered draft until approved by the Department. All reports will be prepared as described in Project Level Reporting, of the 2005 *Research, Development, and Technology Transfer Guidelines for the Montana Department of Transportation*, refer to this link: http://www.mdt.state.mt.us/research/docs/rmuguide.pdf. Report guidelines can be found at:
http://www.mdt.state.mt.us/research/docs/report_guidelines.pdf